

Remarks

Claims 1-3, 5-11, 13-28 and 32-41 are pending in this application.

Claims 1-3, 5-11, and 13-28 stand rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 22-28, 32-35, 38, and 40-41 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Szeliski et al. (US Patent Number 6,157,747, herein referred to as Szeliski) in view of Seago (US Patent Number 5,990,900). Claims 11, 13-21, 23, and 36-37 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Szeliski and Seago, and in further view of Blank (US Patent Number 5,469,536). Claims 1-3, 5-6, 8-10 and 39 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Szeliski in view of Luken (US Patent Number 5,923,334), and in further view of Seago. Claim 7 stands rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Szeliski, Luken, and Seago, and in further view of Blank.

Claims 1, 11, 22, and 38 have been amended so that at least one step of the method explicitly uses a computer to execute the method step. Support for these amendments is provided at least in paragraph 114 of the subject application, as published. No new matter has been added.

Claim Rejections – 35 U.S.C §101

Claims 1-3, 5-11, and 13-28 stand rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter. Each of Claims 1-3, 5-11, and 13-28 have been amended to recite use of a computer for

at least one step of the method. Clearly, each claim, as amended, meets the requirements of 35 U.S.C. §101.

Claim Rejections – 35 U.S.C § 103(a)

Claims 22-28, 32-35, 38, and 40-41 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Szeliski et al. (US Patent Number 6,157,747, herein referred to as “Szeliski”) in view of Seago (US Patent Number 5,990,900, herein referred to as “Seago”).

The rejection of Claims 22-28, 32-35, 38, and 40-41 for obviousness over Szeliski in view of Seago must fail because neither Szeliski nor Seago teaches creating a geometric model of an object within an image panorama including identifying at least one boundary of the object where the object occupies a field of view in the panorama of greater than 180 degrees, as required by each of Claims 22-28, 32-35, 38, and 40-41. Details follow.

Claim 22 requires in pertinent part:

“(a)... receiving instructions from a user identifying a three-dimensional geometric surface within an image panorama, the image panorama containing an object having one or more textures, the object occupying a field of view of more than 180 degrees in the panorama;

...

(b) using the computer creating a geometric model of the image panorama based at least in part on the three-dimensional geometric surface and the directional vector, wherein creating a geometric model includes identifying at least one boundary of the object and using the identified

boundary to associate geometry information with the object, the geometry information comprising 3-D coordinates describing the position and orientation of the object boundary in a reference coordinate system;...(annotations added).

Likewise, independent Claims 32 and 38 include similar limitations to the cited limitations of Claim 22.

The subject office action admits that:

“Szeliski does not expressly suggest:

- Creating a geometric model includes identifying at least one boundary of the object and
- Using the identified boundary to associate geometry information with the object,
 - oThe geometry information comprising 3-D coordinates describing the position and orientation of the object boundary in a reference coordinate system.” (See, Office Action, page 6.)

Thus, if the combination of Szeliski and Seago teaches limitation (b) of Claim 22, where the object occupies a field of view of more than 180 degrees in the panorama as required by limitation (a) of Claim 22, this teaching must be present in Seago.

However, Seago does not teach modeling an object at all where the object occupies a field of view greater than 180 degrees. The input to Seago's method is a 2-D perspective image or a group of 2-D images displaying the object to be modeled. (See, e.g., Seago, col. 11, lines 45-47). Seago determines vanishing points for the planar faces of the object using parallel lines on the object and then derives a 3D coordinate system for the object using the vanishing points. (See, Seago, steps 40 to 48, fig. 2.) The features of the object are then modeled (See, Seago, step 50, fig. 2 and figs. 9-10.) The object to be modeled, therefore,

must “fit” onto a display surface in Seago’s screen world coordinate space, so that the vanishing points for the object can be calculated, the coordinate system determined and the features of the object determined in the coordinate system. Seago’s object in the image(s) must occupy a field of view of no more than 180 degrees so that the object can be viewed on the display screen. Therefore, Seago’s method is inapplicable to objects that occupy a field of view of more than 180 degrees.

Because step “b” of Claims 22, 32 and 38, for objects that occupy a field of view greater than 180 degrees as required by step “a,” is neither taught nor suggested by any combination of the teachings of Szeliski and Seago, a prima facie case of obviousness is lacking. Claims 22, 32 and 38 are therefore deemed patentable. Claims 23-28, 33-35 and 40-41 depend from Claims 22, 32, and 38, respectively and add further limitations. Each of these claims is deemed nonobvious over Szeliski in view of Seago for at least the same reasons as for Claims 22, 32 and 38.

Claims 11, 13-21, 23, and 36-37 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Szeliski and Seago, and in further view of Blank (US Patent Number 5,469,536).

The rejections of Claims 11, 13-21, 23, and 36-37 for obviousness rely on Szeliski and Seago for teaching the limitations cited above for Claim 22 and 32, namely: limitation (b) of Claim 22, where the object occupies a field of view of more than 180 degrees in the panorama as required by limitation (a) of Claim 22. Therefore, a prima facie case of obviousness is lacking for each of these

claims because, as shown above, Szeliski and Seago do not teach, disclose or suggest these limitations of the claims. Claims 11, 13-21, 23, and 36-37 are therefore deemed patentable over the cited references.

Claims 1-3, 5-6, 8-10 and 39 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Szeliski in view of Luken (US Patent Number 5,923,334), and in further view of Seago.

The rejections of Claims 1-3, 5-6, 8-10 and 39 for obviousness rely on Szeliski and Seago for teaching the limitations cited above in rejecting Claim 22 and 32, namely: limitation (b) of Claim 22, where the object occupies a field of view of more than 180 degrees in the panorama as required by limitation (a) of Claim 22. Therefore, a prima facie case of obviousness is lacking for each of these claims because, as shown above, Szeliski and Seago do not teach, disclose or suggest these limitations of the claims. Claims 1-3, 5-6, 8-10 and 39 are therefore deemed patentable over the cited references.

Claim 7 stands rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Szeliski, Luken, and Seago, and in further view of Blank.

The rejection of Claim 7 for obviousness relies on Szeliski and Seago for teaching the limitations cited above in rejecting Claim 22 and 32, namely: limitation (b) of Claim 22, where the object occupies a field of view of more than 180 degrees in the panorama as required by limitation (a) of Claim 22. Therefore, a prima facie case of obviousness is lacking for Claim 7 because, as shown above, Szeliski and Seago do not teach, disclose or suggest these

limitations of the claims. Claim 7 is therefore deemed patentable over the cited references.

Applicant respectfully points out that the only amendments made to the claims by this response were to overcome claim rejections under 35 U.S.C. §101. Therefore, if a new ground of rejection is applied under another subsection of Title 35 of the United States Code in the next office action, the next office action must be non-final because Applicant's amendments will not have necessitated the new ground of rejection.

Applicant requests reconsideration of all pending claims and a notice of allowance. The Examiner is requested to telephone the undersigned if any matters remain outstanding so that they may be resolved expeditiously. The Commissioner is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith to our Deposit Account No. 19-4972.

Respectfully submitted,

/John L. Conway, #48,241/

John L. Conway
Registration No. 48,241
Attorney for Applicant

Bromberg & Sunstein LLP
125 Summer Street
Boston, MA 02110-1618
(617) 443-9292

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